Biological hazards

– **Infectious disease control**

Operating theatres >

This information bulletin provides examples of several safe work practices, which could form the basis of more detailed procedures to be adopted in individual work situations relating to operating theatres.

Introduction

This information bulletin should be read in conjunction with the National Code of Practice for the Control of Work-related Exposure to Hepatitis and HIV (Blood-borne) Viruses [NOHSC: 2010(2003)], which is an Approved Code of Practice under section 187A of the *Workers Rehabilitation and Compensation Act*.

Transmission of HIV and the Hepatitis B virus in the workplace has occurred in two major ways:

- when sharps contaminated with infected blood or body fluids penetrate the skin; and
- when infected blood or body fluids splash into the eye or onto broken skin or into a cut.
- Preventing the transmission of HIV and the Hepatitis B virus in the workplace, therefore means preventing:
- injuries from sharps and other instruments contaminated with blood or body fluids; and
- contact between blood or body fluids and the eye, or other mucous membranes, and broken skin or cuts.

Universal precautions are based on the concept that all blood, blood products and body fluids of all persons are potential sources of infection, independent of diagnosis or perceived risk.

All staff must adhere rigorously to protective measure, which minimise exposure to these agents. The use of universal precautions involves placing a barrier between staff and all blood and body fluids.

It is essential that all post-mortem workers receive initial and ongoing training to enable them to do their duties in a healthy and safe manner. This training should enable them to anticipate and manage situations in which they may be exposed to infectious organisms such as HIV or the Hepatitis B virus.

It is also important that postmortem staff have access to appropriate professional counseling and follow-up services available after any possible and definite exposures to blood and body fluids.

Safe work practices

Safe work procedures should be developed within the framework of risk identification, risk assessment and risk control. The implementation of effective controls impacts on many areas in the workplace, including the selection and purchasing of equipment, staffing, policy and procedures in the workplace, provision of information and training and the recording and monitoring of exposures to blood or body fluids.

Work practices and the choice of personal protective equipment should be based on the universal precautions.

The following procedures should be observed by operating theatre staff:

- Pre-operative shaving should be avoided. Where practicable, hair should be clipped.
- Sharp instruments should not be passed between surgeons and assistants. Surgeons should be responsible for the safe placement of sharp instruments. A sharps dish should be used to transfer all sharp instruments. Only one sharp should be placed in the dish at a time. When two surgeons are operating simultaneously, each must have his/her own sharps dish.
- Used needles and other disposable sharp instruments must be discarded into an approved sharps container as soon as practicable. See Australian Standard AS 4031 Non-reusable Containers for the Collection of Sharp Items Used in Health Care Areas.
- Disposable one-piece scalpels should be used where practicable to avoid injuries that occur when removing scalpel blades from reusable handles.
- Surgeons should avoid using their less dexterous hand to hold a needle holder or instrument when suturing. Surgeons may wish to use sterile thimble for protection when suturing.
- Needles must never be picked up, nor the fingers used to expose and increase access for suturing. Heavy tissue forceps with grooved pads at the ends should be used to pick up the needle or the needle grasped by the assistant with another needle holder and drawn through the tissue. Needles should be cut off before knots are tied to prevent needle stick injury.
- Where practicable, the hands of assisting staff should not be used to retract viscera during surgery.
- New techniques of cutting by laser to minimise the risk of scalpel cuts should be used where practicable.
- Blood-soaked sponges and swabs should be kept in a bowl and counted into a plastic bag.
- If a glove is torn or a needle stick or other injury occurs, the glove should be removed and a new glove worn promptly after washing hands with scrub solution. The needle or instrument involved must also be removed from the sterile field. Needle stick and mucous membrane exposures should be attended to as soon as safety permits.
- Following a surgical procedure, the skin should be closed with staples whenever practicable.
- Closed, rather than open wound drainage is preferable where clinically appropriate.
- Wound dressings should contain and confine wound exudate.
- All blood should be cleaned from the patient after the operation.
- Blood and body fluids should be confined and contained in a fluid-resistant drape and/or a closed, preferably disposable, suction system.
- All specimens and body tissues should be placed in impermeable containers or biohazard bags for transport.
- Routine cleaning procedures are adequate between cases. Any traces of blood and other organic substances should be removed from equipment, walls and floors as soon as practicable.
- Gross soiling should be rinsed off instruments in the operating theatre before they are placed in a closed container for transport to a central processing area. Where practicable, used instruments should be washed mechanically rather than by hand. If this is not possible, they should be washed in a sink of warm water with detergent, not under running water.

Post-exposure procedures

All workplaces must have in place post-exposure procedures. These procedures should be consistent with procedures for other workplace accidents and should utilise existing mechanisms for compensation, rehabilitation, retraining and long term follow-up of employees injured at work.

The procedures should address:

- immediate action;
- follow-up action;
- recording keeping;
- confidentiality.

Personal protective equipment

All staff who are required to wear personal protective equipment while on duty should be trained in its correct fit and use. While on duty, operating theatre staff should have access to the following items:

- Gloves (double gloving is advisable in high risk procedures).
- Plastic aprons should be worn by scrub staff where there is likely to be excessive blood and/or body fluid loss.
- Impermeable gowns with long waterproof sleeves and full length front paneling are recommended if gross contamination is likely. Gowns should be made of waterproof fabric with the ability to breathe. See Australian Standard AS 3789.6 Textiles for health care facilities and institutions – Fabric Specifications.
- Open footwear should **not** be worn. Galoshes, calf-length rubber boots or other protective footwear are preferable to shoes.
- Fluid-resistant face mask.
- Protective eyewear, that is, goggles or a full-face mask.
- An approved sharps container.

The appropriate equipment must be accessible to operating theatre staff at all times. Equipment must be checked regularly, maintained and restocked as necessary.

More information

A range of information bulletins is available on related topics. Please contact NT WorkSafe for details.

Australian Standards are available from the Territory Construction Association, phone 8922 9666. Australian Standards can be viewed online by visiting the Northern Territory Library, Parliament House, phone 8999 7177.

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